



NSF Press Release

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Media contact: Bill Noxon (703) 306-1070 wnoxon@nsf.gov

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Awards Cite Undergraduate College Plans to Integrate Research and Education

Research and education are two sides of the same coin: Discovery. The National Science Foundation (NSF) made a down payment on the nation's future this week, announcing ten new Awards for the Integration of Research and Education (AIRE) to undergraduate schools located nationwide.

Coastal Carolina University (Conway, S.C.), Colby College (Waterville, Maine), Grinnell College (Grinnell, Iowa), Harvey Mudd College (Claremont, Calif.), Hope College (Holland, Mich.), Oberlin College (Oberlin, Ohio), Occidental College (Los Angeles, Calif.), Reed College (Portland, Ore.), Union College (Schenectady, N.Y.) and Wellesley College (Wellesley, Mass.) will receive \$500,000 each over the next three years to design and implement programs that extend initiatives they have already undertaken to integrate research and education.

"These institutions are strengthening the bonds between research and education by designing and implementing new ways to involve undergraduate students in the process of discovery," Joseph Bordogna, NSF's acting deputy director, said.

"These new awards help create a discovery-rich environment where institutions and their students can benefit from making research an essential component of college curricula," Bordogna explained.

Baccalaureate institutions in the U.S. have a long tradition of preparing undergraduate students for diverse careers, especially in professions rooted in science and engineering. Bordogna says that in the future, these colleges will become an increasingly critical asset to the nation - a key source in developing a workforce essential to maintain national prosperity in a complex, diverse economy.

AIRE recipients, according to program officials, have excelled in providing undergraduates an experience rooted in the process of discovery, and the award reflects NSF's confidence that the colleges named to receive the awards will be expanding and improving their innovative programs.

Awardees are expected to provide undergraduates experiences rooted in the process of discovery and to set the stage for life-long inquiry and learning. These skills, say program officials, are not only important for scientists and engineers of the next century, but also for an informed citizenry that will prosper from their discoveries.

Another important element in the awards is the expected sharing of information about the outcomes of integrated research and education with other schools, institutions and the general public. The resulting network is expected to disseminate new knowledge and increase awareness of the importance of science education in society and to the economy.

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Attachment: Summary of AIRE recipients

Attachment

NSF RECIPIENTS OF AWARDS FOR THE INTEGRATION OF RESEARCH AND EDUCATION

Coastal Carolina University (CCU) has established an outstanding record of faculty and student research with campus-wide emphasis on inquiry-based learning focused on undergraduate research programs. The institution draws on its outreach to local schools to include university students and faculty working with in-service teachers and K-12 students.

Colby College, with its creation of a new interdisciplinary curriculum, has redesigned courses to teach critical thinking for both science and non-science majors. Colby also proposes to hire Postdoctoral Teaching Fellows to mentor undergraduates in independent research in addition to work with their own faculty mentors.

Grinnell College has a history of implementing successful mechanisms that foster an environment in which students and teachers define problems and seek solutions together. Grinnell's "New Science Project" seeks to overcome barriers to success for ethnic minorities, women and first-generation college students, and serves as a national model for reforms in other institutions.

Harvey Mudd College has extended its Engineering Clinic, a program in which teams of students practice their profession by working on real problems for real clients, to other scientific disciplines. The college also produces "Future Watch," a half-hour weekly radio and cable television broadcast to inform the public on current issues in science, technology and the environment.

Hope College has structured a curriculum in which students can extend the boundaries of their departments to include other areas of study, expanding science and mathematics to the social sciences, humanities and arts. A Visiting Scholars Program will visit scientists to work in an environment where research and education are integrated on an undergraduate level.

Oberlin College is prepared to extend institutionalized, discovery-rich initiatives into all levels of curriculum for majors and

general audiences. The college also plans to establish the Committee for Integrating Research and Teaching to find means with which to couple a rigorous academic foundation with community awareness and social responsibility.

Occidental College has developed a successful effort to incorporate research into educational experiences for a diverse student body in an urban setting - primarily with K-12 schools in the Los Angeles area - and is expanding these efforts. For example, the *RV Vantuna*, an 85-foot oceanographic research vessel, will provide a place for Occidental students to research alongside students from Southern Californian high schools and community colleges.

Reed College proposes to enhance its already successful senior thesis program by establishing an innovative Undergraduate Research Mentor Program focusing on peer mentoring to help develop research skills in students who are new to science.

Union College was the first liberal arts institution to offer an engineering program. Their General Education curriculum initiative in the late 1980s emphasized discovery-based learning, Engineering faculty are challenged to create a series of hands-on engineering courses for non-engineering students.

Wellesley College has developed a comprehensive program that promotes students to engage in research experience from the very beginning of their college careers to their most advanced independent projects. With success achieved in the natural sciences, Wellesley seeks to expand discovery-based learning more broadly to the social sciences.



National Science Foundation
Office of Legislative and Public Affairs
4201 Wilson Boulevard
Arlington, Virginia 22230, USA
Tel: 703-292-8070
FIRS: 800-877-8339 | TDD: 703-292-5090

